

Name of College: S. R. Luthra Institute of Management								
<b>Faculty</b>	Management			<b>Program</b>	Master of Business Administration, (M.B.A.)			
<b>Year</b>	II			<b>Version</b>	1.0			
<b>Semester</b>	4			<b>Effective From</b>	June 2025			
<b>Course Code</b>	MGMB18402			<b>Course Name</b>	Python for Business Applications (PBA)			
<b>Teaching Scheme</b>				<b>Examination Scheme</b>				
<b>Credits</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>ME</b>	<b>CE</b>	<b>SE</b>	<b>V</b>	<b>Total</b>
4	4	0	0	30	40	50	---	120

**Course Outcomes:**

<b>CO1</b>	Understand the role of Python in analytics and business applications.
<b>CO2</b>	Demonstrate proficiency in handling and preprocessing data using Python libraries
<b>CO3</b>	Create effective visualizations and design dashboards for business storytelling.
<b>CO4</b>	Evaluate business scenarios using statistical methods.
<b>CO5</b>	Design and present data-driven solutions to real-world business problems through mini-projects or case studies.

	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO1</b>	3	1	1	1	1	2
<b>CO2</b>	2	3	1	1	1	1
<b>CO3</b>	1	3	1	1	1	1
<b>CO4</b>	2	3	1	1	1	1
<b>CO5</b>	2	3	1	1	1	1



Sr. No	Module	Description	CO	Marks	Hours
1	I	Introduction to Python <ul style="list-style-type: none"> <li>• Overview of Python in analytics and business applications</li> <li>• Python installation</li> <li>• Introduction to Python libraries for analytics</li> <li>• Variables, data types, and operations</li> </ul>	CO1	10	08
2	II	Data Handling and Preprocessing <ul style="list-style-type: none"> <li>• Data Structures in Python</li> <li>• Data Manipulation with Pandas</li> <li>• Data Cleaning and Preprocessing</li> <li>• Aggregation, grouping, and pivot tables</li> </ul>	CO2	12	08
3	III	Data Visualization <ul style="list-style-type: none"> <li>• Introduction to Visualization Libraries</li> <li>• Matplotlib: creating basic plots (line, bar, scatter)</li> <li>• Seaborn: creating advanced visualizations (heatmaps, pair plots)</li> <li>• Plotting time series data</li> <li>• Dashboards and storytelling with data</li> <li>• Visualization best practices for business presentations</li> </ul>	CO3	14	12
4	IV	Data Analysis Using Python <ul style="list-style-type: none"> <li>• Descriptive Statistics and dispersion (mean, median, mode, variance, standard deviation)</li> <li>• Inferential Statistics (chi-square, test, t-test, Correlation, regression analysis, ANOVA for comparing groups)</li> <li>• Projects and Business Applications (Case studies in finance, marketing, and human resource etc.)</li> </ul>	CO3, CO4	14	12

## REFERENCE

### Reference Books.

1.	Matthes, E. (2023). Python crash course: A hands-on, project-based introduction to programming. no starch press.
2.	Molin, S. (2021). Hands-On Data Analysis with Pandas: A Python data science handbook for data collection, wrangling, analysis, and visualization. Packt Publishing Ltd.
3.	McKinney, W. (2012). Python for data analysis: Data wrangling with Pandas, NumPy, and IPython. " O'Reilly Media, Inc."
4.	Belorkar, A., Guntuku, S. C., Hora, S., & Kumar, A. (2020). Interactive Data Visualization with Python: Present your data as an effective and compelling story. Packt Publishing Ltd.
5.	Bruce, P., Bruce, A., & Gedeck, P. (2020). Practical statistics for data scientists: 50+ essential concepts using R and Python. O'Reilly Media.
6.	Downey, A. (2014). Think stats: Exploratory data analysis. " O'Reilly Media, Inc."

### Online Resources

1. Kaggle Python Tutorials: <https://www.kaggle.com/learn/python>
2. W3Schools Python Tutorial: <https://www.w3schools.com/python/>
3. Python Tutorials: Prof. Neeraj Kaushik: <https://www.youtube.com/@NeerajKaushik>
4. Swayam Course: Data Analytics with Python: offered by IIT Roorkee: [https://onlinecourses.nptel.ac.in/noc24\\_cs20/preview](https://onlinecourses.nptel.ac.in/noc24_cs20/preview)

